PHE450

- Double metallized film pulse capacitor, polypropylene dielectric
- According to IEC 60384-17 Grade 1.1
- Small sizes

in electronic ballasts.

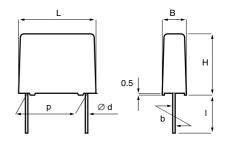
Replacing PHE427, PHE428

TYPICAL APPLICATIONS

High frequency applications with high current stress, such as deflection circuits in TV-sets, protection circuits in SMPS and

CONSTRUCTION

Polypropylene dielectric with double metallized polyester film as electrodes. Encapsulation in self-extinguishing material meeting the requirements of UL 94V-0.



TECHNICAL DATA

Rated voltage U _R , VDC 25	J 400	630	1000	1600	2000	2500
Rated voltage U _R , VAC 180	250	300/400	375/600	650	700	900
Capacitance range 33	OpF- 330pF-	330pF-	330pF-	2.7nF-	1.0nF-	1nF-
6.8	μF 4.7μF	2.7μF	1.2μF	0.82μF	0.39μF	39nF

Capacitance values In accordance with IEC E12 series.

Capacitance tolerance ±5% standard. Other tolerances on request

Category

temperature range -55° C to +105° C

Rated temperature +85° C

Voltage derating The rated voltage is decreased with 1.3% / ° C

between +85° C and +105° C

Climatic category 55/105/56

Test voltage

between terminals The 100 % factory test is carried out at 1.6 x U_R VDC

Measured at 23° C, 100 VDC 60s for $\rm U_R < 500~VDC$ and at 500 VDC for $\rm U_R \ge 500~VDC$ Insulation resistance

Between terminals: $C \leq 0.33~\mu F : \geq 100~000~M\Omega$ $C > 0.33 \ \mu F \ge 30 \ 000 \ s$ Between terminals and case:

 \geq 100 000 $M\Omega$

Dissipation factor tanδ Maximum values at 23°C

	C ≤ 0.1 μF	0.1 μF < C ≤ 1.0 μF	C > 1.0 µF
1 kHz	0.03 %	0.03 %	0.03 %
10 kHz	0.04 %	0.06 %	-
100 kHz	0.15 %	_	_

Inductance Approximately 6 nH/cm for the total length of capacitor

winding and the leads.

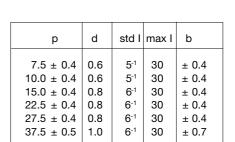
Pulse rise time The capacitors can withstand an unlimited number of pulses

with a dU/dt according to the article table. For peak to peak voltages lower than the rated voltage $(U_{pp} < U_p)$, the specified

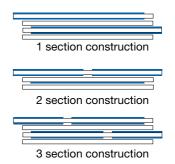
dU/dt can be multiplied by $U_{\rm p}/U_{\rm pp}$.

ENVIRONMENTAL	TEST	DATA

According to IEC 60384-17, Grade 1.1 and Quality tests and requirements for Pulse Capacitors in the Evox Rifa Film Capacitors catalogue.

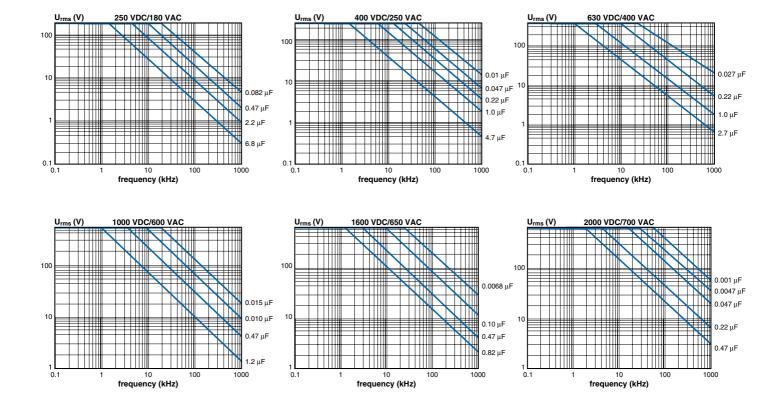


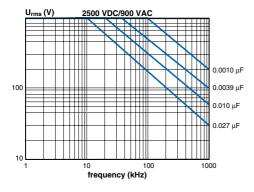
Three different winding constructions are used, depending on voltage and lead spacing. They are specified in the article table.





DERATING OF U_{RMS} VS FREQUENCY, +85°C AMBIENT TEMPERATURE AND 10°C INTERNAL HEATING, TYPICAL VALUES





MARKING

- RIFA
- Article code
- Rated capacitance according to IEC 60062
- Rated voltage
- Capacitance tolerance code
- Manufacturing code (year, month)

ORDERING INFORMATION

The article code for the standard part is given in the article table. For other options, see page 21.

PACKING

The box dimensions for bulk packaging are $245 \times 145 \times 80$ mm. Quantity/package as in article table, based on standard lead length. Reels with taped capacitors are packed 10 in a box with the dimensions $370 \times 370 \times 560$ mm. Quantity per reel as in article table. The standard quantity/reel is for 360 mm reel. If 500 mm reel is required, it must be specified when ordering and the quantity is 2×800 m quantity.



						ARTIC	CLE TAB	LE			
Capaci- tance			sions ii	n mm	_	per package		Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	Н	L	р	Bulk	Tray Reel	Ammo	g	V/µs	0.2 m/s	
					250 VDC	/180 VAC (1	section 1	winding c	onstruct	ion)	
						LEADS	PACING 7	.5 MM			
0.00033	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK3330JR0
0.00039	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK3390JR0
0.00047	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK3470JR0
0.00056	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK3560JR0
0.00068	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK3680JR0
0.00082	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK3820JR0
0.0010	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4100JR0
0.0012	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4120JR0
0.0015	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4150JR0
0.0018	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4180JR0
0.0022	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4220JR0
0.0027	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4270JR0
0.0033	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4330JR0
0.0039	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450HK4390JR0
0.0047	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450HK4470JR0
0.0056	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450HK4560JR0
0.0068	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450HK4680JR0
0.0082	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450HK4820JR0
0.010	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1200	160	PHE450HK5100JR0
0.012	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1200	160	PHE450HK5120JR0
0.015	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	800	160	PHE450HK5150JR0
0.018	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	800	160	PHE450HK5180JR0
0.022	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	800	160	PHE450HK5220JR0
0.027	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	800	160	PHE450HK5270JR0
0.033	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	800	160	PHE450HK5330JR0
0.033	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	800	160	PHE450HK5390JR0
0.039	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	800	160	PHE450HK5470JR0
0.056	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	800	160	PHE450HK5560JR0
0.068	6.0	12.0	10.5	7.5	1000	1000	1200	1.0	800	160	PHE450HK5680JR0
						LEADS	SPACING '	IO MM			
0.0010	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4100JR0
0.0012	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4120JR0
0.0015	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4150JR0
0.0018	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4180JR0
0.0022	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4220JR0
0.0027	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4270JR0
0.0033	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4330JR0
0.0039	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4390JR0
0.0039	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4470JR0
0.0047	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4560JR0
	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450HA4680JR0
0.0068						900				142	PHE450HA4820JR0
0.0082	4.0	9.0	13.0	10.0	1000			0.6	1200		
0.010	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450HA5100JR0
0.012	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450HA5120JR0
0.015	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450HA5150JR0
0.018	4.0	9.0	13.0	10.0	1000	900		0.6	1100	142	PHE450HA5180JR0
0.022	4.0	9.0	13.0	10.0	1000	900		0.6	1100	142	PHE450HA5220JR0
0.027	4.0	9.0	13.0	10.0	1000	900		0.6	1100	142	PHE450HA5270JR0
0.033	4.0	9.0	13.0	10.0	1000	900		0.6	700	142	PHE450HA5330JR0
0.039	4.0	9.0	13.0	10.0	1000	900		0.6	700	142	PHE450HA5390JR0
0.047	4.0	9.0	13.0	10.0	1000	900		0.6	700	142	PHE450HA5470JR0
0.056	4.5	10.5	13.0	10.0	1000	800		0.9	700	122	PHE450HA5560JR0
0.068	4.5	10.5	13.0	10.0	1000	800		0.9	700	122	PHE450HA5680JR0
0.082	5.0	11.0	13.0	10.0	800	700		1.0	700	116	PHE450HA5820JR0
0.100	6.0	12.0	13.0	10.0	600	500		1.3	700	105	PHE450HA6100JR0



						ARTIC	LE TAB	LE			
Capaci- tance	Мах	dimen	sions i	n mm	Quantity	per package		Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	Н	L	р	Bulk 1	ray Reel	Ammo	g	V/µs	0.2 m/s	
						250 VDC /18	0 VAC	(1 section	1)		
						LEAD S	PACING	15 MM			
0.047	5.5	10.5	18.0	15.0	1000	600		1.5	1000	100	PHE450HB5470JR06
0.056	5.5	10.5	18.0	15.0	1000	600		1.5	1000	100	PHE450HB5560JR06
0.068	5.5	10.5	18.0	15.0	1000	600		1.5	1000	100	PHE450HB5680JR06
0.082	5.5	10.5	18.0	15.0	1000	600		1.5	600	101	PHE450HB5820JR06
0.10	5.5	10.5	18.0	15.0	1000	600		1.5	600	100	PHE450HB6100JR06
0.12	5.5	10.5	18.0	15.0	1000	600		1.5	600	99	PHE450HB6120JR06
0.15	5.5	12.5	18.0	15.0	1000	600		1.7	600	85	PHE450HB6150JR06
0.18	6.5	12.5	18.0	15.0	1000	500		2.0	600	83	PHE450HB6180JR06
0.22	7.5	14.5	18.0	15.0	800	400		2.7	600	74	PHE450HB6220JR06
0.27	7.5	14.5	18.0	15.0	800	400		2.7	600	73	PHE450HB6270JR06
0.33	8.0	15.0	18.0	15.0	600	400		3.0	600	67	PHE450HB6330JR06
0.39	8.5	16.0	18.0	15.0	600	400		3.4	600	65	PHE450HB6390JR06
0.47	9.5	17.5	18.0	15.0	500	350		4.2	600	60	PHE450HB6470JR06
						LEADSP	ACING O				
							ACING 2				
0.18	6.5	14.5	26.0	22.5		234		3.2	600	58	PHE450HD6180JR06
0.22	6.5	14.5	26.0	22.5		234		3.2	400	60	PHE450HD6220JR06
0.27	6.5	14.5	26.0	22.5		234		3.2	400	59	PHE450HD6270JR06
0.33	6.5	14.5	26.0	22.5		234		3.2	400	58	PHE450HD6330JR06
0.39	7.0	16.5	26.0	22.5		216		3.9	400	54	PHE450HD6390JR06
0.47	7.0	16.5	26.0	22.5		216		3.9	400	53	PHE450HD6470JR06
0.56	9.0	18.5	26.0	22.5		168		5.6	400	49	PHE450HD6560JR06
0.68	9.0	18.5	26.0	22.5		168		5.6	400	47	PHE450HD6680JR06
0.82	10.5	19.0	26.0	22.5		264		6.7	400	43	PHE450HD6820JR06
	11.0	21.5	26.0	22.5		253		8.0	400	40	PHE450HD7100JR06
1.2	13.5	23.0	26.0	22.5		209		10.0	400	38	PHE450HD7120JR06
1.5	13.5	23.0	26.0	22.5		209		10.0	400	36	PHE450HD7150JR06
						LEAD SP	ACING 2	7.5 MM			
0.82	10.5	20.5	31.5	27.5		216		8.0	300	38	PHE450HF6820JR06
1.0	10.5	20.5	31.5	27.5		216		8.0	300	38	PHE450HF7100JR06
1.2	10.5	20.5	31.5	27.5		216		8.0	300	37	PHE450HF7120JR06
	11.5	22.5	31.5	27.5		198		10.6	300	34	PHE450HF7150JR06
	13.5	23.0	31.5	27.5		171		12.7	300	32	PHE450HF7180JR06
	14.5	24.5	31.5	27.5		153		14.5	300	31	PHE450HF7220JR06
	17.5	28.0	31.5	27.5		126		19.7	300	27	PHE450HF7270JR06
	19.0	29.0	31.5	27.5		117		22.1	300	25	PHE450HF7330JR06
	21.0	30.0	31.5	27.5		108		25.3	300	23	PHE450HF7390JR06
3.0	21.0	00.0	01.0	27.0			40000		000	20	1112 100111 700001100
						LEAD SP	ACING 3	7.5 MM			
1.8	13.0	24.0	41.0	37.5		140		16.6	200	28	PHE450HR7180JR06
2.2	13.0	24.0	41.0	37.5		140		16.6	200	28	PHE450HR7220JR06
	13.0	24.0	41.0	37.5		140		16.6	200	27	PHE450HR7270JR06
	15.0	26.0	41.0	37.5		119		20.8	200	25	PHE450HR7330JR06
	16.5	32.0	41.0	37.5		105		28.1	200	22	PHE450HR7390JR06
	16.5	32.0	41.0	37.5		105		28.1	200	22	PHE450HR7470JR06
	19.0	36.0	41.0	37.5		91		36.5	200	18	PHE450HR7560JR06
	21.0	38.0	41.0	37.5		84		42.5	200	17	PHE450HR7680JR06
						400 VDC / 25	0 VAC	(1 section)		
						LEAD SI	PACING 7	'.5 MM			
0.00033	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK3330JR05
0.00039	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK3390JR05
0.00047	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK3470JR05
0.00056		8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK3560JR05
		8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK3680JR05
0.00068											
0.00068	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK3820JR05



						ARTIC	LE TAB	LE			
Capaci-	Max	dimen	sions i	n mm	Quant	ty per package		Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
ıF	В	Н	L	р	Bulk	Tray Reel	Ammo	g	V/µs	0.2 m/s	
						400 VDC / 25	0 VAC	(1 section	n)		
						LEAD SI	PACING	7.5 MM			
0.0012	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK4120JR0
0.0015	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK4150JR0
0.0018	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK4180JR0
0.0022	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK4220JR0
0.0027	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK4270JR0
0.0033	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK4330JR0
0.0039	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450KK4390JR0
0.0047	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450KK4470JR0
0.0056	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450KK4560JR0
0.0068	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450KK4680JR0
0.0082	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450KK4820JR0
0.010	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1200	160	PHE450KK5100JR0
0.012	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1200	160	PHE450KK5120JR0
0.015	5.0	11.0	10.0	7.5	1000	1300	1500	8.0	1200	160	PHE450KK5150JR0
0.018	5.0	11.0	10.0	7.5	1000	1300	1500	8.0	1200	160	PHE450KK5180JR0
0.022	5.0	11.0	10.0	7.5	1000	1300	1500	8.0	1200	160	PHE450KK5220JR0
0.027	5.0	11.0	10.0	7.5	1000	1300	1500	8.0	1200	160	PHE450KK5270JR0
0.033	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	1200	160	PHE450KK5330JR0
0.039	6.0	12.0	10.5	7.5	1000	1000	1200	1.0	1200	160	PHE450KK5390JR0
0.047	6.0	12.0	10.5	7.5	1000	1000	1200	1.0	1200	160	PHE450KK5470JR0
						LEADS	PACING	10 MM			
0.0010	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4100JR0
0.0012	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4120JR0
0.0015	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4150JR0
0.0018	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4180JR0
0.0022	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4220JR0
0.0027	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4270JR0
0.0033	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4330JR0
0.0039	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4390JR0
0.0047	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4470JR0
0.0056	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4560JR0
0.0068	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450KA4680JR0
0.0082	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450KA4820JR0
0.010	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450KA5100JR0
0.012	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450KA5120JR0 PHE450KA5150JR0
0.015	4.0	9.0	13.0	10.0	1000	900 900		0.6	1200	142	
0.018	4.0	9.0	13.0	10.0	1000	900		0.6	1100	142	PHE450KA5180JR0
0.022	4.0	9.0	13.0	10.0	1000	900		0.6	1100	142	PHE450KA5220JR09 PHE450KA5270JR09
0.027	4.0	9.0	13.0	10.0	1000	900 800		0.6 0.9	1100	142	
0.033	4.5	10.5	13.0	10.0	1000	700			1100	122	PHE450KA5330JR0 PHE450KA5390JR0
0.039 0.047	5.0	11.0	13.0	10.0	800	700 500		1.0	1100	116 105	PHE450KA5390JR0 PHE450KA5470JR0
).04 <i>7</i>).056	6.0	12.0 12.0	13.0 13.0	10.0 10.0	600 600	500		1.3 1.3	1100 1100	105	PHE450KA5470JR0 PHE450KA5560JR0
.030	0.0	12.0	13.0	10.0	000		DAOINO		1100	105	FIL430NA33003NO
0.033	5.5	10.5	18.0	15.0	1000	600	PACING	1.5 MINI 1.5	2500	100	PHE450KB5330JR0
0.039	5.5	10.5	18.0	15.0	1000	600		1.5	1000	100	PHE450KB5390JR0
0.039	5.5	10.5	18.0	15.0	1000	600		1.5	1000	100	PHE450KB5470JR0
0.056	5.5	10.5	18.0	15.0	1000	600		1.5	1000	100	PHE450KB5560JR0
0.068	5.5	10.5	18.0	15.0	1000	600		1.5	1000	100	PHE450KB5680JR0
0.082	5.5	12.5	18.0	15.0	1000	600		1.7	1000	99	PHE450KB5820JR0
0.10	6.5	12.5	18.0	15.0	1000	500		2.0	1000	85	PHE450KB6100JR0
).12	7.5	14.5	18.0	15.0	800	400		2.7	1000	75	PHE450KB6120JR0
).15	7.5	14.5	18.0	15.0	800	400		2.7	1000	75	PHE450KB6150JR0
).18	8.0	15.0	18.0	15.0	600	400		3.0	1000	71	PHE450KB6180JR0
0.10	9.5	17.5	18.0	15.0	500	350		4.2	1000	60	PHE450KB6220JR0
	0.0				000	000				00	



						ARTIC	LE TAB	LE			
Capaci- tance	Max	dimen	sions i	n mm	Quanti	ty per package		Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	н	L	р	Bulk	Tray Reel	Ammo	g	V/µs	0.2 m/s	
						400 VDC / 25	0 VAC	(1 section	n)		
						LEADSF	ACING 2	2.5 MM			
0.12	6.5	14.5	26.0	22.5		234		3.2	600	58	PHE450KD6120JR06
0.15	6.5	14.5	26.0	22.5		234		3.2	600	58	PHE450KD6150JR06
0.18	6.5	14.5	26.0	22.5		234		3.2	600	58	PHE450KD6180JR06
0.22	7.0	16.5	26.0	22.5		216		3.9	600	52	PHE450KD6220JR06
0.27	7.0	16.5	26.0	22.5		216		3.9	600	52	PHE450KD6270JR06
0.33	9.0	18.5	26.0	22.5		168		5.6	600	48	PHE450KD6330JR06
0.39	9.0	18.5	26.0	22.5		168		5.6	600	48	PHE450KD6390JR06
	10.5	19.0	26.0	22.5		264		6.7	600	45	PHE450KD6470JR06
	11.0	21.5	26.0	22.5		253		8.0	600	40	
				22.5		209			600		PHE450KD6560JR06 PHE450KD6680JR06
	13.5	23.0	26.0					10.0		35	
	13.5	23.0	26.0	22.5		209		10.0	600	35	PHE450KD6820JR06
1.0	15.5	24.5	26.0	22.5		176		12.0	600	33	PHE450KD7100JR06
						LEADSF	PACING 2	7.5 MM			
0.47	10.5	20.5	31.5	27.5		216		8.0	500	38	PHE450KF6470JR06
0.56	10.5	20.5	31.5	27.5		216		8.0	500	38	PHE450KF6560JR06
0.68	10.5	20.5	31.5	27.5		216		8.0	500	38	PHE450KF6680JR06
	11.5	22.5	31.5	27.5		198		10.6	500	34	PHE450KF6820JR06
	13.5	23.0	31.5	27.5		171		12.7	500	32	PHE450KF7100JR06
	14.5	24.5	31.5	27.5		153		14.5	500	30	PHE450KF7120JR06
	17.5	28.0	31.5	27.5		126		19.7	500	27	PHE450KF7150JR06
	19.0	29.0	31.5	27.5		117		22.1	500	25	PHE450KF7180JR06
	21.0	30.0	31.5	27.5		108		25.3	500	24	PHE450KF7220JR06
/	21.0	00.0	01.0	27.0			A CINIC O		000	24	111E-100111 122001100
						_	PACING 3				
	13.0	24.0	41.0	37.5		140		16.6	300	27	PHE450KR7100JR06
	13.0	24.0	41.0	37.5		140		16.6	300	27	PHE450KR7120JR06
1.5	13.0	24.0	41.0	37.5		140		16.6	300	27	PHE450KR7150JR06
1.8	15.0	26.0	41.0	37.5		119		20.8	300	25	PHE450KR7180JR00
2.2	16.5	32.0	41.0	37.5		105		28.1	300	22	PHE450KR7220JR06
2.7	16.5	32.0	41.0	37.5		105		28.1	300	22	PHE450KR7270JR00
3.3	19.0	36.0	41.0	37.5		91		36.5	300	19	PHE450KR7330JR06
	19.0	36.0	41.0	37.5		91		36.5	300	19	PHE450KR7390JR06
	21.0	38.0	41.0	37.5		84		42.5	300	17	PHE450KR7470JR06
						630 VDC / 30	00 VAC	(1 section)		
						LEAD S	PACING 7	7.5 MM			
0.00033	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK3330JR0
0.00039	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK3390JR0
0.00047	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK3470JR0
0.00056	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK3560JR0
0.00068	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK3680JR0
0.00082	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK3820JR0
0.0010	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4100JR0
0.0012	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4120JR0
0.0015	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4150JR0
0.0018	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4180JR0
0.0022	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4220JR0
0.0027	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4270JR0
0.0027	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4330JR0
0.0033	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	2000	160	PHE450MK4390JR0
0.0047	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450MK4470JRC
0.0056	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450MK4560JR0
0.0068	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450MK4680JR0
0.0082	4.0	8.0	10.0	7.5	1000	1700	1900	0.5	1400	160	PHE450MK4820JR0
0.010	5.0	11.0	10.0	7.5	1000	1300	1500	8.0	1400	160	PHE450MK5100JR0
0.012	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	1400	160	PHE450MK5120JR0



Capaci- tance	Max	dimen	sions i	n mm	Quanti	ty per package		Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	Н	L	р	Bulk	Tray Reel	Ammo	g	V/µs	0.2 m/s	
						630 VDC / 30	00 VAC	(1 section)		
						LEAD SI	PACING	7.5 MM			
0.015	5.0	11.0	10.0	7.5	1000	1300	1500	0.8	1400	160	PHE450MK5150JR05
0.018	5.0	11.0	10.0	7.5	1000	1300	1500	8.0	1400	160	PHE450MK5180JR0
0.022	6.0	12.0	10.5	7.5	1000	1000	1200	1.0	1400	160	PHE450MK5220JR0
						LEADS	PACING	10 MM			
0.0010	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4100JR0
0.0012	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4120JR0
0.0015	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4150JR0
0.0018	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4180JR0
0.0010	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4220JR0
0.0022	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4270JR05
					1000	900			1400	142	
0.0033	4.0	9.0	13.0	10.0				0.6			PHE450MA4330JR0
0.0039	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA44390JR0
0.0047	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4470JR0
0.0056	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4560JR0
0.0068	4.0	9.0	13.0	10.0	1000	900		0.6	1400	142	PHE450MA4680JR0
0.0082	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450MA4820JR0
0.010	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450MA5100JR0
0.012	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450MA5120JR0
0.015	4.0	9.0	13.0	10.0	1000	900		0.6	1200	142	PHE450MA5150JR0
0.018	4.5	10.5	13.0	10.0	1000	800		0.9	1200	122	PHE450MA5180JR05
0.022	4.5	10.5	13.0	10.0	1000	800		0.9	1200	122	PHE450MA5220JR0
0.027	5.0	11.0	13.0	10.0	800	700		1.0	1200	116	PHE450MA5270JR0
0.033	6.0	12.0	13.0	10.0	600	500		1.3	1200	105	PHE450MA5330JR0
0.039	6.0	12.0	13.0	10.0	600	500		1.3	1200	105	PHE450MA5390JR0
						630 VDC / 40	00 VAC	(2 section)		
						LEAD S	PACING	15 MM			
0.010	5.5	10.5	18.0	15.0	1000	600		1.5	2500	99	PHE450MB5100JR00
0.010	5.5	10.5	18.0	15.0	1000	600		1.5	2500	99	PHE450MB5120JR06
0.015	5.5 5.5	10.5	18.0	15.0	1000	600 600		1.5	2500	100	PHE450MB5150JR0
0.018		10.5	18.0	15.0	1000			1.5	2500	100	
0.022	5.5	10.5	18.0	15.0	1000	600		1.5	2500	100	PHE450MB5220JR0
0.027	5.5	10.5	18.0	15.0	1000	600		1.5	2500	100	PHE450MB5270JR0
0.033	5.5	10.5	18.0	15.0	1000	600		1.5	2500	100	PHE450MB5330JR0
0.039	5.5	12.5	18.0	15.0	1000	600		1.7	2500	90	PHE450MB5390JR0
0.047	6.5	12.5	18.0	15.0	1000	500		2.0	2500	85	PHE450MB5470JR0
0.056	6.5	12.5	18.0	15.0	1000	500		2.0	2500	85	PHE450MB5560JR0
0.068	7.5	14.5	18.0	15.0	800	400		2.7	2500	75	PHE450MB5680JR0
0.082	8.0	15.0	18.0	15.0	600	400		3.0	2500	72	PHE450MB5820JR0
0.10	8.5	16.0	18.0	15.0	600	400		3.4	2500	70	PHE450MB6100JR0
0.12	9.5	17.5	18.0	15.0	500	350		4.2	2500	61	PHE450MB6120JR0
0.15	9.5	17.5	18.0	15.0	500	350		4.2	2500	61	PHE450MB6150JR0
						LEAD SP	ACING 2	2.5 MM			
0.033	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450MD5330JR00
0.039	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450MD5390JR0
0.047	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450MD5470JR0
0.056	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450MD5560JR0
0.068	6.5	14.5	26.0	22.5		234		3.2	1800	59	PHE450MD5680JR0
0.082	6.5	14.5	26.0	22.5		234		3.2	1800	59	PHE450MD5820JR0
	6.5	14.5	26.0	22.5		234		3.2	1800	59 59	PHE450MD6100JR0
0.10											
0.12	7.0	16.5	26.0	22.5		216		3.9	1800	55	PHE450MD6120JR0
0.15	7.0	16.5	26.0	22.5		216		3.9	1800	55 50	PHE450MD6150JR0
0.18	9.0	18.5	26.0	22.5		168		5.6	1800	50	PHE450MD6180JR0
0.22	9.0	18.5	26.0	22.5		168		5.6	1800	50	PHE450MD6220JR0
	11.0	21.5	26.0	22.5		253		8.0	1800 1800	45	PHE450MD6270JR06
0.33	11.0	21.5	26.0	22.5		253		8.0	1000	45	PHE450MD6330JR06



								LE TAB				
Capaci- tance	Max	dimen	sions i	n mm	Quanti	ity per pa	ackage		Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	Н	L	р	Bulk	Tray	Reel	Ammo	g	V/µs	0.2 m/s	
						630 \	VDC / 40	00 VAC	(2 section)		
						L	EAD SP	ACING 2	2.5 MM			
0.39	13.5	23.0	26.0	22.5		209			10.0	1800	40	PHE450MD6390JR0
0.47	13.5	23.0	26.0	22.5		209			10.0	1800	40	PHE450MD6470JR0
0.56	15.5	24.5	26.0	22.5		176			12.0	1800	34	PHE450MD6560JR0
						L	EADSP	ACING 2	7.5 MM			
0.22	10.5	20.5	31.5	27.5		216			8.0	1100	38	PHE450MF6220JR0
0.27	10.5	20.5	31.5	27.5		216			8.0	1100	38	PHE450MF6270JR0
0.33	10.5	20.5	31.5	27.5		216			8.0	1100	38	PHE450MF6330JR0
0.39	10.5	20.5	31.5	27.5		216			8.0	1100	38	PHE450MF6390JR0
0.47	11.5	22.5	31.5	27.5		198			10.6	1100	35	PHE450MF6470JR0
).56	13.5	23.0	31.5	27.5		171	EVD CD	ACING 2	12.7	1100	34	PHE450MF6560JR0
							EAD SP	ACING 2	7.5 IVIIVI			
	14.5	24.5	31.5	27.5		153			14.5	1100	33	PHE450MF6680JR0
	17.5	28.0	31.5	27.5		126			19.7	1100	30	PHE450MF6820JR0
	17.5	28.0	31.5	27.5		126			19.7	1100	30	PHE450MF7100JR0
.2	21.0	30.0	31.5	27.5		108			25.3	1100	25	PHE450MF7120JR0
						L	EAD SP	ACING 3	7.5 MM			
.56	13.0	24.0	41.0	37.5		140			16.6	700	29	PHE450MR6560JR0
0.68	13.0	24.0	41.0	37.5		140			16.6	700	28	PHE450MR6680JR0
.82	13.0	24.0	41.0	37.5		140			16.6	700	28	PHE450MR6820JR0
.0	15.0	26.0	41.0	37.5		119			20.8	700	27	PHE450MR7100JR0
.2	15.0	26.0	41.0	37.5		119			20.8	700	27	PHE450MR7120JR0
.5	16.5	32.0	41.0	37.5		105			28.1	700	24	PHE450MR7150JR
.8	19.0	36.0	41.0	37.5		91			36.5	700	20	PHE450MR7180JR0
	19.0 21.0	36.0 38.0	41.0 41.0	37.5 37.5		91 84			36.5 42.5	700 700	20 18	PHE450MR7220JR0 PHE450MR7270JR0
	21.0	36.0	41.0	37.3			VDC/3	75 VAC	(1 section		10	FIIL430IVIN72703NC
								PACING 7		''		
	4.0	0.0	100	7.5	1000					2000	100	DI IE (ESDI(SSSS IDS
0.00033	4.0	8.0 8.0	10.0	7.5 7.5	1000 1000		1700	1900 1900	0.5 0.5	2000 2000	160 160	PHE450PK3330JR0
0.00039			10.0				1700 1700			2000	160	PHE450PK3390JR0
.00047	4.0 4.0	8.0 8.0	10.0 10.0	7.5 7.5	1000 1000		1700	1900 1900	0.5 0.5	2000	160	PHE450PK3470JR0 PHE450PK3560JR0
.00030		8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK3680JR0
.00082	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK3820JR0
.0010	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4100JR0
.0012	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4120JR0
.0015	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4150JR0
.0018	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4180JR0
.0022	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4220JR0
.0027	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4270JR0
.0033	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4330JR0
.0039	4.0	8.0	10.0	7.5	1000		1700	1900	0.5	2000	160	PHE450PK4390JR0
.0047	5.0	11.0	10.0	7.5	1000		1300	1500	0.8	2000	160	PHE450PK4470JR0
.0056	5.0	11.0	10.0	7.5	1000		1300	1500	0.8	2000	160	PHE450PK4560JR0
.0068	5.0	11.0	10.0	7.5	1000		1300	1500	0.8	2000	160	PHE450PK4680JR0
.0082	5.0	11.0	10.0	7.5	1000		1300	1500	0.8	2000	160	PHE450PK4820JR0
0.010	6.0	12.0	10.5	7.5	1000		1000	1200	1.0	2000	160	PHE450PK5100JR0
).012	6.0	12.0	10.5	7.5	1000		1000	1200	1.0	2000	160	PHE450PK5120JR0
							LEAD SI	PACING '	10 MM			
0.0010	4.0	9.0	13.0	10.0	1000		900		0.6	1400	142	PHE450PA4100JR0
0.0012	4.0	9.0	13.0	10.0	1000		900		0.6	1400	142	PHE450PA4120JR0
0.0015	4.0	9.0	13.0	10.0	1000		900		0.6	1400	142	PHE450PA4150JR0
0.0018	4.0	9.0	13.0	10.0	1000		900		0.6	1400	142	



							ARTICLE TAB	LE			
Capaci- tance	Max	dimen	sions i	n mm	Quanti	ty per p	oackage	Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	н	L	р	Bulk	Tray	Reel Ammo	g	V/µs	0.2 m/s	
						1000	VDC / 600 VAC	(2 section	n)		
							LEAD SPACING	10 MM			
0.0022	4.0	9.0	13.0	10.0	1000		900	0.6	1400	142	PHE450PA4220JR05
0.0027	4.0	9.0	13.0	10.0	1000		900	0.6	1400	142	PHE450PA4270JR05
0.0033	4.0	9.0	13.0	10.0	1000		900	0.6	1400	142	PHE450PA4330JR05
0.0039	4.0	9.0	13.0	10.0	1000		900	0.6	1400	142	PHE450PA4390JR05
0.0047	4.0	9.0	13.0	10.0	1000		900	0.6	1400	142	PHE450PA4470JR05
0.0056	4.0	9.0	13.0	10.0	1000		900	0.6	1400	142	PHE450PA4560JR05
0.0068	4.0	9.0	13.0	10.0	1000		900	0.6	1400	142	PHE450PA4680JR05
0.0082	4.5	10.5	13.0	10.0	1000		800	0.9	1400	122	PHE450PA4820JR05
0.0002	4.5	10.5	13.0	10.0	1000		800	0.9	1400	122	PHE450PA5100JR05
					800				1400	116	
0.012	5.0	11.0	13.0	10.0			700	1.0			PHE450PA5120JR05
0.015	6.0	12.0	13.0	10.0	600		500	1.3	1400	105	PHE450PA5150JR05
0.018	6.0	12.0	13.0	10.0	600		500	1.3	1400	105	PHE450PA5180JR05
							LEAD SPACING	15 MM			
0.0039	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450PB4390JR06
0.0047	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450PB4470JR06
0.0056	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450PB4560JR06
0.0068	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450PB4680JR06
0.0082	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450PB4820JR06
0.010	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450PB5100JR06
0.012	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450PB5120JR06
0.015	5.5	10.5	18.0	15.0	1000		600	1.5	2500	100	PHE450PB5150JR06
0.018	5.5	12.5	18.0	15.0	1000		600	1.7	2500	90	PHE450PB5180JR06
0.022	5.5	12.5	18.0	15.0	1000		600	1.7	2500	90	PHE450PB5220JR06
0.027	6.5	12.5	18.0	15.0	1000		500	2.0	2500	87	PHE450PB5270JR06
0.033	7.5	14.5	18.0	15.0	800		400	2.7	2500	78	PHE450PB5330JR06
0.039	7.5	14.5	18.0	15.0	800		400	2.7	2500	78	PHE450PB5390JR06
0.047	8.0	15.0	18.0	15.0	600		400	3.0	2500	75	PHE450PB5470JR06
0.056	8.5	16.0	18.0	15.0	600		400	3.4	2500	70	PHE450PB5560JR06
0.068	9.5	17.5	18.0	15.0	500		350	4.2	2500	70 55	PHE450PB5680JR06
3.000	0.0	17.0	10.0	10.0	000				2000	00	TTIE4001 B000001100
							LEAD SPACING 2	2.5 MM			
0.022	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450PD5220JR06
0.027	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450PD5270JR06
0.033	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450PD5330JR06
0.039	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450PD5390JR06
0.039	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450PD5470JR06
0.056	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450PD5560JR06
0.068	7.0	16.5	26.0	22.5		216		3.9	1800	55	PHE450PD5680JR06
0.082	8.0	16.0	26.0	22.5		186		4.3	1800	54	PHE450PD5820JR06
0.10	9.0	18.5	26.0	22.5		168		5.6	1800	50	PHE450PD6100JR06
0.12	9.0	18.5	26.0	22.5		168		5.6	1800	50	PHE450PD6120JR06
0.15	10.5	19.0	26.0	22.5		264		6.7	1800	49	PHE450PD6150JR06
).18	11.0	21.5	26.0	22.5		253		8.0	1800	44	PHE450PD6180JR06
).22	13.5	23.0	26.0	22.5		209		10.0	1800	40	PHE450PD6220JR06
).27	15.5	24.5	26.0	22.5		176		12.0	1800	35	PHE450PD6270JR06
							LEAD SPACING 2	7.5 MM			
).15	10.5	20.5	31.5	27.5		216		8.0	1300	38	PHE450PF6150JR06
).18	10.5	20.5	31.5	27.5		216		8.0	1300	38	PHE450PF6180JR06
).10						198		10.6		36	PHE450PF6220JR06
1.44	11.5	22.5	31.5	27.5					1300		
0.7	11.5	22.5	31.5	27.5		198		10.6	1300	36	PHE450PF6270JR06
	13.5	23.0	31.5	27.5		171		12.7	1300	35	PHE450PF6330JR06
0.33				_							
).33).39	14.5	24.5	31.5	27.5		153		14.5	1300	34	
0.33 0.39 0.47	14.5 17.5	24.5 28.0	31.5	27.5		126		19.7	1300	30	
0.27 0.33 0.39 0.47 0.56	14.5	24.5									PHE450PF6390JR06 PHE450PF6470JR06 PHE450PF6560JR06



							ARTICLE TAE	BLE			
Capaci- tance	Max	dimen	sions i	n mm	Quantity	per p	ackage	Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	н	L	р	Bulk	Tray	Reel Ammo	g	V/µs	0.2 m/s	
						1000	VDC / 600 VAC	(2 section	n)		
						L	EAD SPACING	37.5 MM			
	13.0	24.0	41.0	37.5		140		16.6	800	28	PHE450PR6330JR06
0.39	13.0	24.0	41.0	37.5		140		16.6	800	28	PHE450PR6390JR06
0.47	13.0	24.0	41.0	37.5		140		16.6	800	28	PHE450PR6470JR06
0.56	15.0	26.0	41.0	37.5		119		20.8	800	27	PHE450PR6560JR06
0.68	16.5	32.0	41.0	37.5		105		28.1	800	25	PHE450PR6680JR06
0.82	16.5	32.0	41.0	37.5		105		28.1	800	25	PHE450PR6820JR06
1.0	19.0	36.0	41.0	37.5		91		36.5	800	20	PHE450PR7100JR06
1.2	19.0	36.0	41.0	37.5		91		36.5	800	19	PHE450PR7120JR06
						1600	VDC / 650 VAC	(2 section	n)		
							LEAD SPACING	15 MM			
0.0027	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450RB4270JR06
0.0033	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450RB4330JR06
0.0039	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450RB4390JR06
0.0047	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450RB4470JR06
0.0056	5.5	10.5	18.0	15.0	1000		600	1.5	2500	98	PHE450RB4560JR06
0.0068	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450RB4680JR0
0.0082	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450RB4820JR0
0.010	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450RB5100JR0
0.012	5.5	10.5	18.0	15.0	1000		600	1.5	2500	99	PHE450RB5120JR0
0.015	5.5	12.5	18.0	15.0	1000		600	1.7	2500	90	PHE450RB5150JR0
0.018	6.5	12.5	18.0	15.0	1000		500	2.0	2500	88	PHE450RB5180JR0
0.022	6.5	12.5	18.0	15.0	1000		500	2.0	2500	89	PHE450RB5220JR0
0.027	7.5	14.5	18.0	15.0	800		400	2.7	2500	80	PHE450RB5270JR0
0.033	8.0	15.0	18.0	15.0	600		400	3.0	2500	75	PHE450RB5330JR0
0.039	8.5	16.0	18.0	15.0	600		400	3.4	2500	73	PHE450RB5390JR0
0.047	9.5	17.5	18.0	15.0	500		350	4.2	2500	60	PHE450RB5470JR0
0.056	9.5	17.5	18.0	15.0	500		350	4.2	2500	60	PHE450RB5560JR0
						L	EAD SPACING 2	22.5 MM			
0.010	6.5	14.5	26.0	22.5		234		3.2	1800	60	PHE450RD5100JR06
0.012	6.5	14.5	26.0	22.5		234		3.2	1800	60	PHE450RD5120JR06
0.015	6.5	14.5	26.0	22.5		234		3.2	1800	60	PHE450RD5150JR0
0.018	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450RD5180JR0
0.022	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450RD5220JR0
0.027	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450RD5270JR0
0.033	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450RD5330JR0
0.039	6.5	14.5	26.0	22.5		234		3.2	1800	58	PHE450RD5390JR0
0.047	7.0	16.5	26.0	22.5		216		3.9	1800	55	PHE450RD5470JR0
0.056	7.0	16.5	26.0	22.5		216		3.9	1800	55	PHE450RD5560JR0
0.068	9.0	18.5	26.0	22.5		168		5.6	1800	50	PHE450RD5680JR0
0.082	9.0	18.5	26.0	22.5		168		5.6	1800	50	PHE450RD5820JR0
	10.5	19.0	26.0	22.5		264		6.7	1800	48	PHE450RD6100JR0
									1800		
	11.0	21.5	26.0	22.5		253		8.0		45	PHE450RD6120JR0
	13.5	23.0	26.0	22.5		209		10.0	1800	40	PHE450RD6150JR0
	13.5 15.5	23.0 24.5	26.0 26.0	22.5 22.5		209 176		10.0 12.0	1800 1800	40 34	PHE450RD6180JR00 PHE450RD6220JR00
).22	15.5	24.5	26.0	22.5		176		12.0	1000	34	PHE45URD022UJRU
						L	EAD SPACING 2	27.5 MM			
0.082	10.5	20.5	31.5	27.5		216		8	1300	37	PHE450RF5820JR06
	10.5	20.5	31.5	27.5		216		8	1300	37	PHE450RF6100JR06
	10.5	20.5	31.5	27.5		216		8	1300	37	PHE450RF6120JR06
	11.5	22.5	31.5	27.5		198		10.6	1300	36	PHE450RF6150JR06
	13.5	23.0	31.5	27.5		153		14.5	1300	35	PHE450RF6180JR06
	14.5	24.5	31.5	27.5		153		14.5	1300	35	PHE450RF6220JR06
	14.5								1300		
	17 F	20 A									
0.27	17.5	28.0	31.5	27.5		126		19.7		32	
0.27 0.33	17.5 19.0 21.0	28.0 29.0 30.0	31.5 31.5 31.5	27.5 27.5 27.5		126 117 108		22.1 25.3	1300 1300 1300	28 25	PHE450RF6270JR06 PHE450RF6330JR06 PHE450RF6390JR06



						ļ	ARTIC	LE TAB	LE			
Capaci- tance	Max	x dimen	ısions i	n mm	Quantii	ty per pa	ıckage		Weight	Max dU/dt	Rthha °C/W 85 °C	Article code
μF	В	Н	L	р	Bulk	Tray	Reel	Ammo	g	V/µs	0.2 m/s	
						1600 \	VDC / 6	50 VAC	(2 sectio	n)		
						LI	EAD SP	ACING 3	7.5 MM			
0.18	13.0	24.0	41.0	37.5		140			16.6	800	27	PHE450RR6180JR06
0.22	13.0	24.0	41.0	37.5		140			16.6	800	27	PHE450RR6220JR06
0.27	13.0	24.0	41.0	37.5		140			16.6	800	27	PHE450RR6270JR06
0.33	15.0	26.0	41.0	37.5		119			20.8	800	26	PHE450RR6330JR06
0.39	16.5	32.0	41.0	37.5		105			28.1	800	24	PHE450RR6390JR06
0.47	16.5	32.0	41.0	37.5		105			28.1	800	24	PHE450RR6470JR06
0.56	19.0	36.0	41.0	37.5		91			36.5	800	20	PHE450RR6560JR06
0.68	19.0	36.0	41.0	37.5		91			36.5	800	20	PHE450RR6680JR06
0.82	21.0	38.0	41.0	37.5		84			42.5	800	18	PHE450RR6820JR06
J.02	21.0	00.0	71.0	01.0							10	11124001111002001100
						2000 \	VDC / 70	00 VAC	(2 section	n)		
						L	_EAD SF	PACING	15 MM			
0.0010	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4100JR06
0.0012	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4120JR06
0.0015	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4150JR06
0.0018	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4180JR06
					1000		600		1.5		98	
0.0022	5.5	10.5	18.0	15.0						2500		PHE450SB4220JR06
0.0027	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4270JR06
0.0033	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4330JR06
0.0039	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4390JR06
0.0047	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4470JR06
0.0056	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4560JR06
0.0068	5.5	10.5	18.0	15.0	1000		600		1.5	2500	98	PHE450SB4680JR06
0.0082	5.5	12.5	18.0	15.0	1000		600		1.7	2500	92	PHE450SB4820JR06
0.010	6.5	12.5	18.0	15.0	1000		500		2.0	2500	90	PHE450SB5100JR06
0.012	7.5	14.5	18.0	15.0	800		400		2.7	2500	80	PHE450SB5120JR06
0.015	7.5	14.5	18.0	15.0	800		400		2.7	2500	80	PHE450SB5150JR06
0.018	8.0	15.0	18.0	15.0	600		400		3.0	2500	75	PHE450SB5180JR06
0.022	8.5	16.0	18.0	15.0	600		400		3.4	2500	70	PHE450SB5220JR06
0.027	9.5	17.5	18.0	15.0	500		350		4.2	2500	61	PHE450SB5270JR06
						LI	EAD SP	ACING 2	2.5 MM			
0.0033	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD4330JR06
0.0039	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD4390JR06
0.0033	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD4470JR06
0.0056	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD4560JR06
0.0068	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD4680JR06
0.0082	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD4820JR06
0.010	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD5100JR06
0.012	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD5120JR06
0.015	6.5	14.5	26.0	22.5		234			3.2	1800	60	PHE450SD5150JR06
0.018	6.5	14.5	26.0	22.5		234			3.2	1800	58	PHE450SD5180JR06
0.022	6.5	14.5	26.0	22.5		234			3.2	1800	58	PHE450SD5220JR06
0.027	7.0	16.5	26.0	22.5		216			3.9	1800	55	PHE450SD5270JR06
0.033	7.0	16.5	26.0	22.5		216			3.9	1800	55	PHE450SD5330JR06
0.039	8.0	16.0	26.0	22.5		186			4.3	1800	53	PHE450SD5390JR06
0.047	9.0	18.5	26.0	22.5		168			5.6	1800	52	PHE450SD5470JR06
0.056	10.5	19.0	26.0	22.5		264			6.7	1800	50	PHE450SD5560JR06
0.038	11.0	21.5	26.0	22.5		253			8.0	1800	45	PHE450SD5560JR06
0.082	11.0	21.5	26.0	22.5		253			8.0	1800	45	PHE450SD5820JR06
	13.5	23.0	26.0	22.5		209			10.0	1800	40	PHE450SD6100JR06
0.10 0.12	13.5 15.5	23.0	26.0	22.5		209 176			10.0 12.0	1800	40 35	PHE450SD6100



Capaci-	Max dimensions in mm			Quantity per package			Weight	Max		Article code		
tance μF	В	н	L	р	Bulk	Tray	Reel	Ammo	g	dU/dt V/µs	0.2 m/s	
						2000	VDC / 70	0 VAC	(2 section	n)		
						L	EAD SPA	CING 2	7.5 MM			
0.047	10.5	20.5	31.5	27.5		216			8.0	1300	37	PHE450SF5470JR06L
0.056	10.5	20.5	31.5	27.5		216			8.0	1300	37	PHE450SF5560JR06L
0.068	11.5	22.5	31.5	27.5		198			10.6	1300	36	PHE450SF5680JR06L
0.082	11.5	22.5	31.5	27.5		198			10.6	1300	35	PHE450SF5820JR06L
0.10	13.5	23.0	31.5	27.5		171			12.7	1300	34	PHE450SF6100JR06L
0.12	17.5	28.0	31.5	27.5		126			19.7	1300	32	PHE450SF6120JR06L
	17.5	28.0	31.5	27.5		126			19.7	1300	30	PHE450SF6150JR06L
	19.0	29.0	31.5	27.5		117			22.1	1300	28	PHE450SF6180JR06L
							.EADSPA	CINGS	7 5 MM			
							LADOIA	·On ··O				
	13.0	24.0	41.0	37.5		140			16.6	800	27	PHE450SR6100JR06L
	13.0	24.0	41.0	37.5		140			16.6	800	27	PHE450SR6120JR06L
0.15	15.0	26.0	41.0	37.5		119			20.8	800	26	PHE450SR6150JR06l
0.18	15.0	26.0	41.0	37.5		119			20.8	800	26	PHE450SR6180JR06I
0.22	16.5	32.0	41.0	37.5		105			28.1	800	24	PHE450SR6220JR06I
0.27	19.0	36.0	41.0	37.5		91			36.5	800	20	PHE450SR6270JR06I
	21.0	38.0	41.0	37.5		84			42.5	800	18	PHE450SR6330JR06I
	21.0	38.0	41.0	37.5		84			42.5	800	18	PHE450SR6390JR06I
						2500	VDC / 90	0 VAC	(3 section	n)		
							. = . = . =	40010	`			
						ı	LEAD SP	ACING ²	15 MM			
0.0010	5.5	10.5	18.0	15.0	1000	ı	LEAD SP	ACING ⁻	1.5	2500	98	PHE450TB4100JR06
	5.5 5.5	10.5 10.5	18.0 18.0	15.0 15.0		•		ACING -	1.5			PHE450TB4100JR06 PHE450TB4120JR06
0.0012	5.5	10.5	18.0	15.0	1000	·	600 600	ACING ⁻	1.5 1.5	2500	98	PHE450TB4120JR06
0.0012 0.0015	5.5 5.5	10.5 10.5	18.0 18.0	15.0 15.0	1000 1000		600 600	ACING ⁻	1.5 1.5 1.5	2500 2500	98 98	PHE450TB4120JR06 PHE450TB4150JR06
0.0012 0.0015 0.0018	5.5 5.5 5.5	10.5 10.5 10.5	18.0 18.0 18.0	15.0 15.0 15.0	1000 1000 1000	1	600 600 600	ACING ⁻	1.5 1.5 1.5 1.5	2500 2500 2500	98 98 98	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06
0.0012 0.0015 0.0018 0.0022	5.5 5.5 5.5 5.5	10.5 10.5 10.5 12.5	18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0	1000 1000 1000 1000	1	600 600 600 600	ACING ⁻	1.5 1.5 1.5 1.5 1.7	2500 2500 2500 2500	98 98 98 92	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06
0.0012 0.0015 0.0018 0.0022 0.0027	5.5 5.5 5.5 5.5 6.5	10.5 10.5 10.5 12.5 12.5	18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000	,	600 600 600 600 600 500	ACING ⁻	1.5 1.5 1.5 1.5 1.7 2.0	2500 2500 2500 2500 2500	98 98 98 92 90	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033	5.5 5.5 5.5 5.5 6.5 7.5	10.5 10.5 10.5 12.5 12.5 14.5	18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800	,	600 600 600 600 600 500 400	ACING ⁻	1.5 1.5 1.5 1.5 1.7 2.0 2.7	2500 2500 2500 2500 2500 2500	98 98 98 92 90 80	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039	5.5 5.5 5.5 5.5 6.5 7.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5	18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800	,	600 600 600 600 600 500 400	ACING ⁻	1.5 1.5 1.5 1.7 2.0 2.7 2.7	2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047	5.5 5.5 5.5 6.5 7.5 7.5 8.0	10.5 10.5 10.5 12.5 12.5 14.5 14.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600	,	600 600 600 600 500 400 400	ACING 1	1.5 1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056	5.5 5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	•	600 600 600 600 500 400 400 400	ACING ⁻	1.5 1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB450JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068	5.5 5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600		600 600 600 600 500 400 400 400 400	ACING ⁻	1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 3.4	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB450JR06 PHE450TB450JR06 PHE450TB4680JR06
0.0010 0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082	5.5 5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	•	600 600 600 600 500 400 400 400	ACING ⁻	1.5 1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB450JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068	5.5 5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600		600 600 600 600 500 400 400 400 400		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 3.4 4.2	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB450JR06 PHE450TB4560JR06 PHE450TB4680JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068	5.5 5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600		600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 3.4 4.2	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB450JR06 PHE450TB4680JR06 PHE450TB4820JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082	5.5 5.5 5.5 5.5 6.5 7.5 8.0 8.5 8.5 9.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	L 234	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB450JR06 PHE450TB450JR06 PHE450TB4820JR06 PHE450TB4820JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0082	5.5 5.5 5.5 5.5 6.5 7.5 8.0 8.5 8.5 9.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	L 234 234	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM 3.2 3.2	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB4680JR06 PHE450TB4820JR06 PHE450TD4470JR06I PHE450TD4560JR06I
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0082	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	L 234 234 234	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM 3.2 3.2 3.2	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB450JR06 PHE450TB450JR06 PHE450TB4820JR06 PHE450TD4470JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4680JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0082	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.9	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 60 55	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB450JR06 PHE450TB450JR06 PHE450TB4820JR06 PHE450TD4470JR06I PHE450TD4560JR06I PHE450TD4680JR06I PHE450TD4820JR06I PHE450TD4820JR06I
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0082 0.0047 0.0056 0.0068 0.0068	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216 186	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.9 4.3	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 60 55 53	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB450JR06 PHE450TB450JR06 PHE450TB4820JR06 PHE450TD4470JR06I PHE450TD4560JR06I PHE450TD4680JR06I PHE450TD4820JR06I PHE450TD4820JR06I PHE450TD4820JR06I PHE450TD4820JR06I PHE450TD5100JR06I
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5 14.5 14.5 14.5 16.5 16.0 18.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216 186 168	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.2 3.9 4.3 5.6	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 55 53 52	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB4680JR06 PHE450TB4820JR06 PHE450TD4470JR06I PHE450TD4680JR06I PHE450TD4680JR06I PHE450TD4820JR06I PHE450TD4820JR06I PHE450TD5120JR06I PHE450TD5120JR06I
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5 6.5 6.5 6.5 6.9 9.0	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5 14.5 14.5 14.5 16.0 18.5 18.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216 186 168 168	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.2 3.9 4.3 5.6 5.6	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 55 53 52 52	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB4680JR06 PHE450TB4820JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD5150JR06 PHE450TD5150JR06 PHE450TD5150JR06 PHE450TD5150JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082 0.0068 0.0082 0.010 0.012	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5 6.5 6.5 6.5 7.0 8.0 9.0 9.0	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5 14.5 14.5 14.5 16.0 18.5 18.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216 186 168 168 264	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.2 3.9 4.3 5.6 5.6 6.7	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 55 53 52 52 50	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB4680JR06 PHE450TB4820JR06 PHE450TD4680JR06 PHE450TD4680JR06 PHE450TD4680JR06 PHE450TD4820JR06 PHE450TD5120JR06 PHE450TD5120JR06 PHE450TD5150JR06 PHE450TD5180JR06 PHE450TD5180JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082 0.0068 0.0082 0.010 0.012 0.015 0.018	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5 6.5 6.5 6.5 6.9 9.0	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5 14.5 14.5 14.5 16.0 18.5 18.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216 186 168 168 264 253	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.9 4.3 5.6 6.7 8.0	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 60 55 53 52 52 50 45	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4270JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB4680JR06 PHE450TB4820JR06 PHE450TB4820JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082 0.0068 0.0082 0.010 0.012 0.015 0.018	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5 6.5 6.5 6.5 7.0 8.0 9.0 9.0	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5 14.5 14.5 14.5 16.0 18.5 18.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216 186 168 168 264	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.2 3.9 4.3 5.6 5.6 6.7	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 55 53 52 52 52 50 45 45	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB4680JR06 PHE450TB4820JR06 PHE450TD4680JR06 PHE450TD4680JR06 PHE450TD4680JR06 PHE450TD4820JR06 PHE450TD5120JR06 PHE450TD5120JR06 PHE450TD5150JR06 PHE450TD5180JR06 PHE450TD5180JR06
0.0012 0.0015 0.0018 0.0022 0.0027 0.0033 0.0039 0.0047 0.0056 0.0068 0.0082 0.0068 0.0082 0.010 0.012 0.015 0.015 0.022	5.5 5.5 5.5 6.5 7.5 7.5 8.0 8.5 8.5 9.5 6.5 6.5 6.5 6.5 7.0 8.0 9.0 9.0 10.5 11.0	10.5 10.5 10.5 12.5 12.5 14.5 14.5 15.0 16.0 17.5 14.5 14.5 14.5 16.0 18.5 18.5 19.0 21.5	18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 26.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	1000 1000 1000 1000 1000 800 800 600 600	234 234 234 216 186 168 168 264 253	600 600 600 600 500 400 400 400 400 350		1.5 1.5 1.5 1.7 2.0 2.7 2.7 3.0 3.4 3.4 4.2 2.5 MM 3.2 3.2 3.2 3.9 4.3 5.6 6.7 8.0	2500 2500 2500 2500 2500 2500 2500 2500	98 98 98 92 90 80 80 75 70 70 60 60 60 60 55 53 52 52 50 45	PHE450TB4120JR06 PHE450TB4150JR06 PHE450TB4180JR06 PHE450TB4220JR06 PHE450TB4220JR06 PHE450TB4330JR06 PHE450TB4390JR06 PHE450TB4470JR06 PHE450TB450JR06 PHE450TB4820JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD4560JR06 PHE450TD5120JR06 PHE450TD5120JR06 PHE450TD5150JR06 PHE450TD5180JR06 PHE450TD5180JR06 PHE450TD5180JR06 PHE450TD5180JR06 PHE450TD5120JR06 PHE450TD5180JR06 PHE450TD5120JR06

